



Center of gravity – Use and Misuse

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The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College, the United States Marine Corps or the Department of the Navy

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ABSTRACT

***Center of gravity* – Use and Misuse**

The concept of *center of gravity* has proven one of the most valuable concepts a commander can use to effectively accomplish his objectives. This has been amply demonstrated throughout history to include periods before the idea was formally introduced by Clausewitz. The problem is that the US military is demanding too much definition in the concept and has made it a key element in the planning process.

A review of what Clausewitz meant demonstrates that *center of gravity* is a conceptual idea, not a precise definition. Reviewing how it has been used in the past as well as hypothetical examples of how it could be used in the future make clear that *center of gravity* can be best used when based on a particular situation and not as a step in a doctrinal planning process. Requiring too specific a definition and prescribing when and where it must be used is, in fact, counter-productive.

The solution is found in accepting the current joint definition of *center of gravity* as is. It is specific enough to provide guidance without being so restrictive to limit the use of the concept. Use of *center of gravity* needs to be based on the requirements of the situation and should be removed from the planning process as a formal step.

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INTRODUCTION

The smoke from the crops and the burned village wafted by his nose as he gazed at the walls of Athens beyond. The smoke gave him pleasure. It was oddly fresh and he hoped that it signaled the coming of a great victory and the end of this war he did not want. He spied his emissary coming out of the walls sprinting towards him. The Athenian army would follow shortly and then he and the rest of the Spartans would win the battle, subdue the city and go home. Ordering his phalanx to form for battle, he wanted only the confirmation of an Athenian sally.

His emissary arrived and choked out, "My King, the Athenians say they will not come out."

Upset that his plan had failed, the King asked "Why not?" "Pericles said that we were not threatening his *center of gravity*."

The King thought about this and then said, "What the hell is gravity?"¹

Almost 2,500 years later, a similar scene played out over NATO's air operation against Serbia in 1999. While the concept of *center of gravity* was known by this time, confusion reigned on what it was exactly and how to apply it. For the overall commander, it was the Serbian ground forces in Kosovo;² his senior air commander thought otherwise and pushed for direct attacks on infrastructure and other 'high value' targets in Serbia proper.³ The final report on American operations during this conflict alludes to the difficulty in applying the concept. The

¹Robert B. Strassler ed, The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War, (New York: The Free Press, 1998) pp. 103-104. While the story above is fiction, it is based on real events.

² Wesley K. Clark, "The United States and NATO: The Way Ahead", Parameters, Winter 1999-2000, p. 9.

³ John A. Tirpak, "Short's View of the Air Campaign", Air Force, September, 1999, p. 43

report listed the main reasons for the Serbian capitulation as the mounting damage against “strategic, military industrial, and national command and control targets, as well as the attacks against Milosovic’s fielded forces in Kosovo . . .” It then went on to list other ‘extremely important factors’ - to wit;

- NATO solidarity – eliminating the chance for defeat
- Russian diplomacy and the political isolation of Serbia
- The build up of NATO ground forces in the region
- The efforts of Kosovar resistance
- Economic and political pressure – embargo, freezing of financial holdings, etc.

In summary, the report states that it may have been the combination of all these factors that led Serbia to accept NATO’s conditions for ending the conflict.⁴ While this is a most reasonable conclusion, it points to at least some difficulty in applying the concept of *center of gravity* in the real world.

The thesis of this essay is that the US military is trying to use the concept of *center of gravity* for purposes it was not intended and, in the process, may be severely limiting the concept’s practical usefulness. It must be noted in this introduction that the criticism in this essay is directed at some of the ways we are using the concept and not at the concept of *center of gravity* itself nor its value to the US military. There is no intent to throw the baby out with the bathwater.

⁴ Department of Defense, Report to Congress Kosovo/Operationa Allied Force After Action Report, (Washington D.C.: 31 Jan 2000), pp. 10-11.

The basic questions to be asked are what does the concept mean and, how was it intended to be used. The answers will be contrasted with how the US military is currently using *center of gravity* and point out some potential pitfalls in our approach. This paper will also cover alternative views on problems with our use of the concept and different solutions that have been proposed. The end product is a set of recommendations on how we can use the concept of *center of gravity* to our best advantage in the future.

WHAT DID CLAUSEWITZ MEAN?

Since Clausewitz was the first to use the term *center of gravity* in a military sense⁵ and is the source of this concept in our doctrine, it is appropriate to start at the source in answering the questions posed above.

Clausewitz's description of how he thought of *center of gravity* is worth quoting in full. "What the theorist has to say is this: one must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain *center of gravity* develops, the hub of all power and movement, on which everything depends."⁶ This definition is quoted in full as one notices is that it is not quite as precise or definitive as is sometimes presented.⁷

The first thing to note is that *center of gravity* is a metaphor, not a precise definition or description of an idea. In an age where Newtonian principles were widely known and used, it

⁵ Milan Vego, Operational Warfare (Newport, RI, Naval War College, 2000) p. 308.

⁶ Carl Von Clausewitz, On War, Translated and Edited by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), pp. 595-596.

⁷ It is sometimes paraphrased by leaving out the modifiers "out of dominant characteristics" and "a certain *center of gravity*" and appears much more as a straight definition "The hub of all power and movement upon which everything depends." This is from FM 100-5 Operations (HQ, Dept of the Army: 1993) p. 6-7. The

made sense to use this metaphor to attempt to describe a ‘something’ that needed to be impacted on in one way or another to achieve victory.⁸ *Center of gravity* is a metaphor in the same way that we today frequently use the term ‘quantum leap’ to describe something that is radically different than what went before. We do not actually mean a principle in physics and neither did Clausewitz.

The remainder of his discussion on *center of gravity* is his attempt to explain the concept and give examples on how it should be used. In the page and a half Clausewitz allots to the topic, he does not flesh out the concept and make it applicable to all situations. He does not differentiate between centers of gravity at the different levels of war and only hints at the linkages between these levels. Fortunately, he does specifically link the concept to the objective – one flows from the other.⁹ He concludes by stating that it would be rare to have more than one *center of gravity* but finishes his discussion by stating “Where this (being able to reduce several centers of gravity to one) is not so, there is admittedly no alternative but to act as if there were two wars or even more, each with its own object. This assumes the existence of several independent opponents, and consequently great superiority on their part. When this is the case, to defeat the enemy is out of the question.” A discussion on what makes an objective feasible and sound immediately follows this quote.¹⁰

original description is retained in more in depth discussions of *center of gravity* such as that in Operational Warfare, p.308.

⁸ Michael I. Handel, Masters of War, Classical Strategic Thought, 3rd Edition (London: Frank Cass Publishers, 2001) pp. 62, 388. Handel states that Clausewitz did not develop *center of gravity* as a metaphor as Clausewitz goes on to give specific examples of centers of gravity. My understanding is different as Clausewitz uses other metaphors drawn from physics (‘friction’ for instance – Masters of War, p. 388) and the examples he gives are aimed at achieving the overthrow of the enemy or total victory, taking no account of his theory of wars of limited objectives.

⁹ On War, p. 595.

¹⁰ Ibid, p. 597.

This lack of development of his concept must be considered atypical. Clausewitz normally went to extraordinary lengths to let the reader know exactly what his thought process was in coming up with his theories on war and tried to make what he was talking about as clear as possible. That he did not when writing about *center of gravity* and his abrupt ending of the discussion leads to the conclusion that his thought on this subject was incomplete. We are left with an idea or concept and not a well thought out set of prescriptions.

What one can take from Clausewitz on centers of gravity is the need to recognize that there are some sources of power (and these could be physical, geographical or moral)¹¹ that enable the enemy and yourself to accomplish the mission or prevent the other side from doing so. When this can be identified, the *center of gravity* should enable a commander to focus on the essential things he must do or prevent and not waste time and resources on subsidiary tasks in relation to the objective that have no relationship to victory. As such, *center of gravity* is an extremely valuable concept in gaining victory. Clausewitz would have opposed using *center of gravity*, or any other of his concepts for that matter, as things to be used as elements of process. “But any method by which strategic plans are turned out ready-made, as if from some machine, must be totally rejected.”¹²

WHERE WE ARE AND HOW WE GOT HERE

Recent articles and analytical books written on *center of gravity* make clear the doctrinal confusion within the American military today on this topic. As Dr. Joe Strange of the Marine

Corps University points out, each one of the services has (or had) different definitions.¹³ In addition to the service and joint definitions is Colonel John Warden's 'Five Rings' approach to *center of gravity* which arrays them in conceptual rings with the center being the most important.¹⁴

While there is undoubtedly some difference of opinion among the services, and within them as far as that goes, the only reason that this should concern military planners is that *center of gravity* has also been enshrined in joint and service doctrine as a critical element in the operational planning process. Unlike the 'Principles of War', which, while important, are not part of the planning process per se, *center of gravity* has been introduced in to the planning process as a specific step.¹⁵ And this is the rub. Having, principles or concepts that help a planner or commander in thinking through a military problem is one thing. Having the same thing as a doctrinal requirement in a process is another. With the former, differences of opinion on what a principle or concept means are not terribly important – the importance is in the quality of decision making that results. As part of a process, and one where it is one of the major 'drivers' of the final plan,¹⁶ these differences have the potential for causing serious mistakes in the plan. It is worth noting in this context that there is no place in the process that evaluates

¹¹ Clausewitz mentions only physical and geographical ones. It is reasonable to assume that he would have included moral centers as well given his emphasis on the moral aspect of war – On War, p. 77 discussing 'will' for example. He does not really discuss economic sources of power.

¹² On War, p. 154.

¹³ Joe Strange, Centers of Gravity and Critical Vulnerabilities (Quantico, Va: Marine Corps Association, 1996) pp 1-2.

¹⁴ John Warden, article The Enemy as a System in Air Command and Staff School, Concepts in Airpower for the Campaign Planner, (Maxwell AFB, Ala: 1993), pp. 8-20.

¹⁵ It is part of Steps 3 and 4 in the Commanders Estimate of the Situation in NWP 5-01 (Rev.A) Naval Operational Planning (Norfolk, Va: Department of the Navy, 1998) pp. A-26, A-30.

¹⁶ Joint Pub 3-0, Doctrine for Joint Operations (Washington DC: Dept of Defense, 1995) p. III-8 says it is one of the fundamentals of campaign plans.

courses of action in relation to the Principles of War which begs the question of why this is necessary for *center of gravity*.

To understand why our current use of the concept is dangerous, some background is helpful. First of all, the rationale behind the concept is not new. As Professor Michael Handel, one the foremost experts on Clausewitz, notes, the basic idea is present in the writings of Sun Tzu who wrote over 2,000 years before Clausewitz came up with the term.¹⁷ The idea has been around a long time.

A famous example of using the concept of *center of gravity* was Lincoln's judgment during the American Civil War as expressed in a letter to Major General Henry Halleck. "My last attempt upon Richmond was to get McClellan . . . to run in ahead of him (the Confederates). Since then, I have consistently desired the Army of the Potomac to make Lee's army, and not Richmond, its objective point."¹⁸ The same basic idea can be seen in Halleck's own treatise on military operations written before the Civil War when he recommended concentration when "... it (he is talking about a particular line of operation as the good follower of Jomini he was) strikes the enemy at the heart, paralyzes all his military resources, thus promptly terminating the contest."¹⁹

The Allies in World War Two also made good use of the concept. At the coalition-strategic level, the designation of Germany as the Axis *center of gravity* drove much of what

¹⁷ Masters of War, p. 61.

¹⁸ Cited in Trevor N. Dupey, Understanding War (New York : Paragon Publishers, 1987) p 33. In other words, making Lee's army and not Richmond the Confederate's *center of gravity*.

the Allies did.²⁰ The American determination that the German Army was the theater-strategic *center of gravity* drove the Allies to the beaches of Normandy and the campaign in France where the German Army in the West was destroyed. The point of these examples is that proper use of the concept of *center of gravity* whether by design or accident, has been a precursor to military successes (at least at the strategic and operational level). It should be noted that all of this took place before the concept was introduced into our doctrine.

It is also instructive to look at how other successful military forces and leaders have applied the concept. Supposedly the most ‘scientific’²¹ of all militaries, the Soviets did not even include *center of gravity* in their doctrine.²² For Helmuth Von Moltke Sr., a *center of gravity* was either a geographical location or a physical entity – the enemy army, capital or a location on the ground.²³ That other militaries, generals and our own history are replete with examples of successful military operations without the explicit use of *center of gravity* at least points to the possibility that no one particular concept or version of it is necessary.

Vietnam and the strategy by numbers approach of McNamara was the catalyst for introducing Clausewitz and operational art into the American military. All the services went through a serious reappraisal of their doctrines and approaches to war following our defeat in

¹⁹ H Wagner Halleck,, Elements of Military Art and Science. (New York : D. Appleton & Company, , 1846), p. 40.

²⁰ In this case, the Allies followed Clausewitz’s advice completely. “In this one enemy (the one whose defeat leads to the defeat of the others) we strike at the *center of gravity* of the entire conflict.” On War, p 597.

²¹ The term scientific is from Understanding War, p. 47

²² Harriet Fast and William F Scott, eds, The Soviet Art of War, Doctrine, Strategy and Tactics (Boulder, CO: Westview Press, 1982. This book is a translation of a representative selection of Soviet military articles. The term is used once in a context that clearly does not mean *center of gravity* as we understand it. Professor Vego has also told the author that the concept is absent from Soviet Doctrine. Conversation with Dr. Milan Vego, 15 May 2001.

South East Asia. They wanted to study the Vietnam experience to make sure that that kind of misuse of military forces, both by the civilian leadership (the lessons being codified in the Weinburger Doctrine) and, perhaps more importantly, the military itself did not occur.²⁴

It was in this environment that Colonel Harry Summers provided the spark that lit the fire. In his article and follow on book – On Strategy, A Critical Reappraisal of the Vietnam War, using Clausewitz’s arguments, he conducted a devastating critique of American strategic and operational conduct of the war. He demonstrated with simple and convincing logic, the need for the American military to relearn the basics of how one plans to win wars at the strategic and operational levels.²⁵ With the failure of Vietnam as a backdrop, Clausewitz entered US military thought with a vengeance. This and the obvious sense that Clausewitz makes may have led to perhaps a too literal adoption of some of his ideas.²⁶ This was the case with *center of gravity*.

Many of Clausewitz’s ideas have entered American military doctrine. The ideas of ‘the fog of war’, ‘friction’, ‘supremacy of the political objective’, ‘opposing wills’ as well as *center of gravity* are used often enough to become cliché. While all these ideas can be found in current American doctrinal literature, only *center of gravity* has entered doctrine as an explicit step in the planning process. One could argue that, next to the overall objective and logistical reality, *center of gravity* doctrinally has more influence on the final plan than any other element²⁷.

²³ Daniel J. Hughes ed, Moltke on the Art of War – Selected Writings (Novato, Ca: Presidio Press, 1993) pg 39 (Paris as the *center of gravity*), p 78 (the location of German forces SW of Metz), p 95 (the Austrian main army)

²⁴ Colin S. Powell with Joseph E. Persico, My American Journey, (New York: Random House, 1995), p. 303.

²⁵ Harry G. Summers, On Strategy, A Critical Analysis of the Vietnam War (Novato, Ca: Presidio, 1982).

²⁶ We are not alone in this. Michael Howard’s essay, The Influence of Clausewitz (pp 27 –44 in On War)

²⁷ Joint Pub 3-0, p. III-8.

Because of its importance, we need either to be sure of what we mean by *center of gravity* or have doctrine that takes into account different views. Failure to choose one option or the other can lead to dysfunctional plans that, in the face of an adversary more formidable than Serbia, could spell disaster.

PROBLEMS WITH CENTER OF GRAVITY

A basic difficulty is that a *center of gravity* can be extremely hard to identify in all but the most simple of military operations. Intelligence will be imperfect, a situation may not have developed to the point where a *center of gravity* has formed, we may mirror image our opponent and so on. If we get the *center of gravity* wrong and this determines the outline of the rest of the plan, the operation starts out fatally flawed. Going back to the Kosovo example, if all efforts had been focused on the Serbian forces in Kosovo who were seen by the CINC as the *center of gravity*,²⁸ NATO might have failed in the operation. Without the unremitting pressure on other ‘fronts’; diplomatic, economic and militarily in Serbia proper, Milosovic might still occupy Kosovo. With the ineffectiveness of air power against Serbian forces in Kosovo, the only way to get at this *center of gravity* may have been an expensive ground campaign. NATO was heading in this direction when the Serbians gave up. Whether American will to persevere or NATO solidarity would have stood up to the pressures of a ground campaign is problematic at best. We were actually fortunate in this case that there was disagreement on what the *center of gravity* was and that a single one was not allowed to drive the entire operation.

Related to the difficulty in identifying the *center of gravity* is the fact that it can change rapidly either through the press of events or by deliberate decision on the part of one of the belligerents. As an example of both, in the early stages of World War II in the Pacific, a good argument could be made that the Japanese aircraft carrier force was the theater-strategic (and when encountered, operational) *center of gravity*. Japan's ability to wage war effectively against the United States rested on its ability to use the resources of South East Asia and to keep the United States away from both Japan's sea lines of communication and strategic targets in Japan. Once the carrier force was destroyed, Japan replaced a material *center of gravity* with a moral one – the supposed willingness of its population to mount a suicidal resistance. To its credit, the United States recognized this shift and accommodated it. The decision to use the atomic bomb coupled with that to allow the Emperor to retain the throne were a result of this recognition.

American doctrine is unclear on how many centers of gravity there are at each level of war during any particular operation, campaign or war.²⁹ The clear preference is for having only one at any particular level³⁰ – a literal interpretation of Clausewitz. Again, we will use an example from World War II at the strategic level to demonstrate that this, while perhaps an ideal situation, is not necessarily the case.

If a *center of gravity* is something that the enemy must have in order to prevail, from the German perspective in 1942, there were several ways they could have won the war against the western Allies. One option was to choose Allied shipping resources, and prevent the effective

²⁹ Joint Pub 3-0, p. III-20. The Joint Pub clearly leaves room for more than one. .

use of this shipping whether by overall sinkings or making the routes to Britain too dangerous. Without the ability to move American combat power to Europe and support that of Britain and the Soviet Union, Allied defeat would have become a real possibility. Churchill certainly saw it this way when he said “The U-boat attack was our worst evil. It would have been wise for the Germans to stake all upon it.”³¹ Concentration on this should have led to a decision by the Germans to divert resources over the long term to a maritime campaign.

An alternative was for the Germans to have determined that the Allied ability to project land power from Britain was the *center of gravity*. If they had been able to control the English Channel or sink enough amphibious ships, one could again argue that they would have won the war. This might have required a major shift of resources to mining or maintaining air superiority, again over time. The efforts the Allies made in ensuring complete air and sea control of the Channel makes clear the Allies agreement with the Germans on this count.

A third option would have involved having the Germans designating the Allied armies themselves as the *center of gravity*. Their decisive defeat once in France would have also given the Germans the chance to win the war. Logically this would have led to a lessening of efforts in other areas such as the air defense of Germany.

The point is that there were several Allied theater strategic centers of gravity – the defeat of any of which plausibly could have led to German victory. With their limited resources, they could not succeed trying to defeat all three.³² In fact, they may not have had the resources to

³⁰ Instruction given to the author by the Joint Military Operations instructors at the Naval War College

³¹ Winston S. Churchill, *The Hinge of Fate*, (Boston: Houghton Mifflin, 1950), p. 125.

³² Some will not agree with the characterization of all three Allied critical strengths as centers of gravity. Using some definitions of *center of gravity*, they are probably right. Each one of these strengths however fits the criteria as a “source of massed strength. . . that would have the most decisive impact on the . . .

defeat any of the Allied centers of gravity but their failure to focus on any made defeat close to inevitable.

In summary, the potential problems with applying the concept of *center of gravity* as we are trained to in the US Military are that there may be more than one at any given time and level of war, we may have great difficulty in identifying them and they may change rapidly and without our knowledge. The conclusion from these examples is that the use of the concept of *center of gravity* is entirely dependent on the situation in the most general sense. Where a *center of gravity* is clear (or your opponent has more resources) it may make sense to use a single *center of gravity* as the unifying theme for an operation, campaign or war. Where it is unclear (or you have lots of resources) it may make more sense to pursue multiple potential centers of gravity or conduct operations simply to develop the situation. A commander may also have the ability to shape what the enemy *center of gravity* will be. Say, for example, the operational objective is to prevent an enemy from transporting raw materials to his home industries (which is a *center of gravity* for a theater-strategic objective) and the commander has been given the option of either being given submarines or aircraft to accomplish this. Depending on which option he picks, the operational *center of gravity* could be either the enemy anti-submarine force or his air defense capability. It is worth noting that perhaps the single thread that runs through On War is that the practical demands of the situation should drive decision making.³³ Theory is useful in recognizing the situation and giving one tools to take the best advantage of it but not a formula for success.

ability to accomplish a given military objective.” Operational Warfare, p. 309. All were a source of ‘massed strength’ and all were decisive in accomplishing the objective.

OTHER VIEWS

Other writers who think we are on the wrong track with *center of gravity* point to our confusion over definitions or improper application as the major problems that need to be fixed. Their prescriptions generally focus on improving our doctrine.

One proposed solution is to come up with truly joint doctrine with a single theory of war that defines and uses *center of gravity* in a consistent manner.³⁴ In other words, *center of gravity* means the same thing and is applied in the same way in all situations. Everyone agrees on what it is and once identified, all go along their merry way destroying or protecting it and wars are won as quickly and efficiently as possible.

There are some real problems with this approach. First, it is safe to say that coming up with a unified theory of war (of which *center of gravity* would be just one of the components) is going to be exceedingly difficult. Aside from normal bureaucratic and institutional opposition, there is no real agreement among the services about what is the correct theory of war. Some also argue that going to a single theory of war would limit our flexibility.³⁵ One could go further and say that, given that war involves imperfect and inconsistent human behavior, the task is

³³ This is my reading at least. As an example, “War is the realm of uncertainty . . . A sensitive and discriminating judgement is called for...” *On War*, p 101.

³⁴ Gordon M. Wells, *The Center of gravity Fad: Consequence of the Absence of an Overarching American Theory of War* (Arlington, Va, Association of the US Army, 2001). The title pretty much tells the story. The basic argument is that doctrinal differences on the concept are only symptoms of a larger failing – no universally accepted theory of war. That aside, the article does a great job of laying out some of the questions to be answered.

impossible and that there is no single theory of war that will work in all situations. A glaring example of over-reliance on a particular ‘theory of war’ in our history was the ascendancy of strategic nuclear war in the mid to late 1950s. This turned out to be a theory of war that was not applicable in any real world situation. The cure might be worse than the disease.

Another approach, put forth by Dr Strange, is to further break down the use of *center of gravity* by introducing ‘Critical Requirements’ (CRs) and ‘Critical Capabilities’ (CC’s) to the doctrinal mix.³⁶ It is unclear how adding two new concepts (which have no interservice recognition) to one we already don’t have a common understanding of improves the situation. This does not mean that Dr Strange’s logic should be rejected. His book provides a good guide to an understanding of *center of gravity*. His approach also uses a step by step approach to determining centers of gravity which may work in many situations but certainly not all. Again, taking a mechanical, very specific approach could exacerbate the drawbacks to this approach mentioned above.

Even a minimalist approach that aims only at coming to a fully agreed upon definition or understanding of *center of gravity* should be eschewed. Understanding that doctrine is supposed to provide practical assistance to commanders and planners for them to use according to the situation, coming up with a single understanding is counterproductive. It is also unnecessary. The current joint definition is a good one and the discussion in our Doctrine for Joint Operations provides excellent guidance for how the concept should be used. It is specific

³⁵ Mackubin T. Owens, “The Use and Abuse of ‘Jointness’”, Marine Corps Gazette, (November, 1997), p. 57.

³⁶ Centers of Gravity & Critical Vulnerabilities, pp. 48-49.

enough to get the idea across and vague enough to allow for varying understandings of that idea.

RECOMMENDATIONS

There are two types of recommendations that follow from the argument presented in this paper. The first deals with doctrine; the second with how a commander might apply the concept in coming up with his plan.

From a doctrinal point of view, in line with the medical adage of ‘first do no harm’, leave what is working alone. The joint definition has been agreed upon and gets the basic thrust of the concept across. Leave it alone. Second, within this joint framework, different takes by the services (or individual commanders for that matter) are not only acceptable but a positive good.

As long as these discrete ideas are within the ballpark, they allow the different services to bring different perspectives and solutions to joint efforts. This diversity makes it far more likely that the right center or centers of gravity will be chosen based on the situation. One size does not fit all.

The second, thing to do is disassociate *center of gravity* from the planning process as a formal step in that process. It, like the principles of war, is an exceptionally useful concept in understanding a situation and determining what one is going to do to accomplish the mission. Considering the situational dynamics discussed above, where it fits into the development and execution of plans should be left up to the commander.

The concept of *center of gravity* provides the commander with an intellectual tool to concentrate on essentials in accomplishing his mission. He should demand different definitions from different sources to determine which ideas of *center of gravity* fit the situation he is faced with. He needs to be aware that they can change rapidly and that there may be several operative at any one time.

The great British military theoretician J.F.C. Fuller in his The Foundations of the Science of War, used Clausewitz explicitly in laying his ‘foundations’. Without once mentioning the term in over 400 densely argued pages, he encapsulated the concept of *center of gravity* by making the question “What have I got to do? the start point for any plan.”³⁷ This simple language lays out the essence of what *center of gravity* is about and what it means to the commander.

CONCLUSION

Center of gravity is one of the most valuable concepts to be introduced into the post Vietnam military. One can not read Colonel Summers book without shuddering at the fundamental mistakes the United States made in Vietnam. We have made great strides in our operational and strategic conduct of war as demonstrated by the Gulf War. In the process however, we seem to be taking a useful concept or analytical tool and trying to turn it into something it was never intended to be. Fortunately, the solution to this problem is fairly simple. All it requires is to accept the progress we, collectively, have made in understanding the concept, tolerating the differences that exist and actually making our planning process less complicated. In an age of increasing complexity, this should be welcome news.

³⁷ J.F.C. Fuller, The Foundations of the Science of War (London: Hutchinson&Co, 1926), p. 230.

Bibliography

Churchill, Winston S. The Hinge of Fate. Boston: Houghton Mifflin, 1950.

Clark, Wesley K. "The United States and NATO: The Way Ahead", Parameters, Winter 1999-2000.

Clausewitz, Carl Von. On War. Translated and Edited by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.

Department of Defense. Report to Congress Kosovo/Operationa Allied Force After Action Report. Washington D.C.: 31 January 2000.

Department of Defense. .Joint Pub 3-0, Doctrine for Joint Operations. Washington DC: 1995.

Department of the Army. FM 100-5 Operations. Washington D.C., 1993.

Department of the Navy. NWP 5-01 (Rev.A) Naval Operational Planning. Norfolk, Va:, 1998

Dupey, Trevor N. Understanding War. (New York : Paragon Publishers, 1987.

Fuller, J.F.C. The Foundations of the Science of War. London: Hutchinson & Co, 1926.

Halleck, H Wagner. Elements of Military Art and Science. New York : D. Appleton & Company, 1846.

Handel, Michael I. Masters of War, Classical Strategic Thought, 3rd Edition. London: Frank Cass Publishers, 2001.

Hughes, Daniel J. ed. Moltke on the Art of War - Selected Writings. Novato, Ca: Presidio Press, 1993.

Owens, Mackubin T. "The Use and Abuse of 'Jointness'", Marine Corps Gazette, November, 1997.

Powell, Colin S. with Joseph E. Persico. My American Journey. New York: Random House, 1995.

Scott, Harriet Fast and William F eds, The Soviet Art of War, Doctrine, Strategy and Tactics. Boulder, CO: Westview Press, 1982.

Strange, Joe. Centers of Gravity and Critical Vulnerabilities. Quantico, Va: Marine Corps Association, 1996.

Strassler Robert B. Editor. The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War. New York: The Free Press, 1998.

Summers, Harry G. On Strategy, A Critical Analysis of the Vietnam War. Novato, Ca: Presidio, 1982.

Tirpak, John A. "Short's View of the Air Campaign", Air Force, September, 1999.
Vego, Milan N. Operational Warfare. Newport, RI: Naval War College, 2000.

Warden, John. The Enemy as a System in Air Command and Staff School, Concepts in Airpower for the Campaign Planner. Maxwell AFB, Ala: 1993.

Wells, Gorden M. The Center of gravity Fad: Consequence of the Absence of an Overarching American Theory of War. Arlington, Va, Association of the US Army, 2001.